

QUALIFICATION REQUIREMENTS
SUPERSEDES PREVIOUS EDITIONS

29 Jun 88
(Revision C)

PRIME ENGINE MFG: Allison
P/N: 6788713
NSN: 2840-00-632-8994RW
NOUN: Lock, Prop Shaft Thrust Nut
AMC: 3C

I. HARDWARE DESCRIPTION

- A. Function: Item splines over the prop shaft and over the thrust nut to lock the nut on the prop shaft.
- B. Material: AMS 6415

II. JUSTIFICATION FOR QUALIFICATION REQUIREMENT

A. Criticality of Part:

Part is used on C-130 aircraft primary propulsion engine, Allison T56. It is considered a critical item because manufacture of this part requires specialized technique. The integrity of this part depends on control of critical vibration characteristics or is sensitive to induced vibration. Failure of this part can cause unsafe engine operation.

B. Complexity of Part:

1. Part requires use of specialized manufacturing processes such as machining, heat treating, phosphate treating, nickel plating, and magnetic particle inspection
2. Part requires expertise in manufacturing from special material AMS 6415.
3. Part requires sophisticated/rigorous quality assurance controls of raw materials, manufacturing techniques, and inspection processes, to guarantee satisfactory production of acceptable, safe, items.

C. Government Risk If Not From Qualified Sources

1. The probability of an unqualified source to under estimate the manufacturing difficulty, produce an inferior part and fail to meet delivery schedules is considerably greater than that for a qualified source.

2. An inferior part can cause unsafe or unreliable engine operation, resulting in high cost of repair and possible costly premature engine removals to retrieve the defective items.

3. Untimely delivery will critically impact engine overhaul schedules and/or the field level availability of needed spare parts. Failure to deliver on schedule may result in high cost emergency procurement and grounded aircraft.

III. JUSTIFICATION FOR QUALIFICATION PRIOR TO CONTRACT AWARD

***** NOT APPLICABLE *****

IV. DATA AND DOCUMENTATION REQUIREMENTS

A. The DCAS or other government representative must provide written verification that the proposed source has the latest applicable revision of Allison drawing 6788713 and all the specifications and drawings it references.

B. The DCAS or other government representative must provide written verification that the proposed vendor's quality program meets or exceeds the requirements of MIL-I-45208A and paragraphs 5.0, 5.1, 5.2, 6.1, 6.2 of MIL-Q-9858A. This may be provided by either furnishing copies of the proposed vendor's quality control program or by written verification from DCAS or other government representatives.

C. The vendor must submit a copy of the proposed manufacturing process sheets for the item (and for the similar item in the event that approval is requested on the basis of similarity). Final process sheets for the actual item must be submitted along with the sample items if samples are requested.

D. The vendor must supply a list of all manufacturing processes and inspections that will be performed by sub-vendors. In the event that these sub-vendors also provide these same services to the prime engine manufacturer, it would be desirable to verify this by providing copies of appropriate documents or by DCAS verification. Failure to do so could delay processing of the source approval request.

V. SUBSTANTIATION OF MANUFACTURING CAPABILITY

A. A vendor who has manufactured the item for the prime engine manufacturer may be approved as a source for the part provided that the vendor was responsible for all inspection and finishing of the end item, i.e., the prime engine manufacturer did not add any value to the end item. The vendor must submit evidence of the scope of work for the part indicating that the vendor had primary responsibility for all operations necessary to manufacture the item and that the item was accepted by the customer.

B. Other vendors will be considered for approval on the basis of their ability to manufacture a similar item for a prime engine manufacturer or an ally of the U.S. Government. The reason for the following data is for a potential vendor to show the government that he is indeed familiar with the technologies, peculiarities and difficulties associated with the manufacture of the type of part desired and that he has accomplished this successfully for other customers. The following conditions must be met for approval by similarity:

1. Submit evidence of the scope of work for the part which indicated that the vendor had primary responsibility for all operations necessary to produce the part, and that the part was successfully manufactured by the vendor and accepted by the customer. Copies of signed customer acceptance receiving documents are necessary.

2. Submit data on the similar item to show that the material is the same or an alloy of equal manufacturing properties, and provide specific similarities and differences between the desired part and the similar parts. The data must also show that the manufacturing and inspection/test processes for the similar part demonstrate the full range of scope and difficulty required for the desired part.

C. Three production samples* will be required to substantiate the manufacturing source's ability to make an acceptable item.

* Production samples -- Samples selected at random by the local DCAS representative from the initial contract production quantity of a newly approved source. They will be tested for compliance with requirements either at the plant or at SA-ALC. Continued production during this testing period will be at the risk of the source.

VI. TESTING

Estimated cost of testing samples is \$1,000. The tests include: dimensional, metallurgical, hardness check, coating check, and spline check using spline gage. All or part of the cost of testing may be passed on to the vendor requesting qualification. This decision will be based on the number of sources already approved for the part, the amount of the cost, and the amount of future long term savings to the government that will result from having another source of supply. As soon as this decision is made, the vendor will be given the opportunity to decide if he wants to continue his qualification efforts or withdraw.